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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/541,804	07/07/2005	Steven Wantling	B22-2539	4284
33349 7590 09/26/2008 HEXION SPECIALTY CHEMICALS, INC. 1600 SMITH STREET, P.O. BOX 4500 HOUSTON, TX 77210-4500				
EXAMINER				
METZMAIER, DANIEL S				
ART UNIT		PAPER NUMBER		
1796				
MAIL DATE		DELIVERY MODE		
09/26/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/541,804

Applicant(s)

WANTLING ET AL.

Examiner

Daniel S. Metzmaier

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 7/72005; 2/14/2007 & election 7/28/2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) 15-40 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 July 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 7/72005.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claims 1-40 are pending.

Election/Restrictions

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-14, drawn to an emulsion.

Group II, claim(s) 15-18, drawn to a method of improving the water resistance of a lignocellulosic composite.

Group III, claim(s) 21-31, drawn to methods of treating wood.

Group IV, claim(s) 19-20 and 32, drawn to a treated lignocellulosic composite and/or treated wood.

Group V, claim(s) 33-38, drawn to methods of making an emulsion.

2. The inventions listed as Groups I-V do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

the expression "special technical features" shall mean those technical features that define a contribution which each of the claimed inventions, considered as a whole, makes over the prior art. The prior art cited in the prior

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art rejections are evidence that the claimed inventions, considered as a whole, do not define a contribution over the prior art (see PCT Rule 13.2).

3. During a telephone conversation with Lisa Kimes Jones on July 28, 2008 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-14. Affirmation of this election must be made by applicant in replying to this Office action. Claims 15-40 have been withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.
4. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any

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inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1-7 and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Imai, US 5,120,355, in view of Bates et al, US 5,972,094.

Imai discloses emulsions comprising water; one or more waxes (a) having a melting point of 50-90 °C (122 to 194 °F); a hydrocarbon resin (b), which may be an alkyl polyphenol; a salt of a condensation product of β -naphthalene sulfonic acid with formalin (c), *i.e.*, polynaphthalenesulfonic acid; a polyacrylic acid salt (d); an alkali metal hydroxide (e); and a wax dispersant, which is a surfactant.

The waxes can be a hydrocarbon wax, an oxygen containing wax such as montan or camuba, *i.e.*, saponifiable wax, or a mixture of the waxes (Abstract; column 1, lines 45- 52; column 1, line 67 to column 2, line 2; column 2, lines 31-32; column 3, line 54 to column 4, line 16; column 4, lines 60-64; column 5, lines 4-5, 22-28 and 47-51; and Claim 15).

Alternatively, Imai discloses that the naphthalene sulfonic acid-formalin condensation product functions as an emulsifying agent, *i.e.*, a surfactant, and that a mixture of two or more having different structures can be used, thus the emulsion also comprises a surfactant (column 4, line 60 to column 5, line 9). The

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open claim language, *i.e.*, "comprising", permits the inclusion of additional additives, *e.g.*, polyacrylic acid salts.

Regarding the amounts of each component in the composition, Imai discloses the following guidelines: a weight ratio of (a) + (b) to (c) + (d) of 1:0.01-0.2; a weight ratio of (a) to (b) of 1:0.1-2; a weight ratio of (c) to (d) of 1:0.1-1; a weight ratio of (a) + (b) + (c) + (d) to (e) of 1:0.01-0.1; an amount of surfactant of 1% or less by weight of the amount of (a) thru (e); an amount of 150 pts or less of saponifiable waxes to 100 parts hydrocarbon wax; an amount of water of 0.8 to 10 times the amount of the above components (col 3, lines 47-53; col 5, lines 34-62). The guidelines embody compositions within the claimed ranges. For example, the following composition is embodied and also falls within the claimed ranges: Component parts by weight % of emulsion

(a-1) hydrocarbon wax	200	32.4
(a-2) saponifiable wax	30	4.9
(b) alkyl polyphenol	50	8.1
(c) polynaphthalenesulfonic acid	20	3.2
(d) polyacrylic acid	10	1.6
(e) alkali hydroxide	4.5	0.7
Surfactant	3.1	0.5
<u>Water</u>	<u>300</u>	<u>48.6</u>
TOTAL	617.6	100

Imai discloses that the composition is useful as a water repellent composition for gypsum board, gypsum plaster, cements, paper and fibers (column 6, lines 12-18).

Imai differs from the claims in the further inclusion of carboxymethylcellulose into the disclosed compositions.

Bates et al discloses a paper sizing composition comprising a thermoplastic resin, such as a hydrocarbon resin or amide wax, an anionic surfactant and a starch as a conventional polysaccharide colloidal polymer component (Abstract; column 3, lines 44-49 and 65-67; column 4, lines 1-3 and 39-46). Suitable surfactants include condensed salts of naphthalene sulfonic acid that are well known in the art (column 8, lines 47-53). The hydrocarbon resin can be a polyalkylene wax (hydrocarbon wax) (column 6, lines 53-54; column 7, lines 20-27). Furthermore, Bates et al (column 8, lines 36 et seq) discloses alkyl phenol compounds as dispersants.

Suitable starches include unmodified starch, oxidized starch, anionic starch (acid modified), hydroxyethylated starch and cationic starch (column 8, lines 5-23). The starch assists in the dispersal and stability of the aqueous composition (column 7, line 62 to column 8, line 1; and particularly column 8, lines 29-32) and discloses as suitable other polysaccharide colloidal polymers the use of carboxymethylcellulose.

These references are combinable because they teach paper treatment and/or coating compositions employing wax, naphthalenesulfonic acid dispersants. It would have been obvious to one of ordinary skilled in the art at

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the time of applicants' invention to employ a colloidal polysaccharide polymer in the compositions of Imai for use in treating paper, such as taught in Imai (column 6, line 18). The use of carboxymethylcellulose (CMC) is taught in Bates et al as conventionally used in sizing compositions and is advantageous for improving the surface properties of paper. The use of CMC in Imai would have been obvious to the ordinary skilled artisan when paper treatment disclosed in Imai is desired in view of the conventional knowledge of the Bates et al reference.

Double Patenting

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. Claims 1-14 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 4-16 and 19-21 of U.S. Patent No. 7,294,189. Although the conflicting claims are not identical, they are

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not patentably distinct from each other because the instant claims are broader, employ open transitional language "comprising" and thus encompass the patented claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel S. Metzmaier whose telephone number is (571) 272-1089. The examiner can normally be reached on 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David W. Wu can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

**/Daniel S. Metzmaier/
Primary Examiner, Art Unit 1796**

DSM